DETAILED ACTION

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

Hemingway et al., (U.S. Pub. No. 2002/0134666) (hereinafter referred to as "HEMINGWAY"); Nelson et al., (U.S. Pub. No. 2002/0131918) (hereinafter referred to as "NELSON"); Carlow et al., (W.I.P.O. Pub. No. 02/074435 A1) (hereinafter referred to as "CARLOW"); and Miyao (J.P. Pub. No. 2001-193441 A) with reference made to the machine translation (hereinafter referred to as "MIYAO") represent the most relevant art.

NELSON teaches a parallel plate-type plasma reactor comprising multiple dielectric plates having conductive electrodes in the middle which are stacked together in an alternating fashion so as to generate an electric field upon application of voltage of sufficient strength to generate plasma in the gaps formed between the dielectric coated electrode plates (see). NELSON, however, fails to teach alternating electrode plates having a portion without any conductive film so as to cause a portion of the plasma reactor to have a greater distance between consecutive conductive portions thereby resulting in the generation of a plasma of a different intensity to that of the other portion.

Additionally, CARLOW teaches a similar type parallel plate plasma reactor with one embodiment having a discontinuous conductor resulting in the conductor not extending through out the entire length of the dielectric plate (see figure 3 showing the plasma reactor having several first portions with conductor, i.e. those portions having electrode 46 between dielectric layers 53 and 54, and several second portions without a

conductor, i.e. those portions having electrode 47 between dielectric layers 54 and 55). However, CARLOW does not teach having a first portion that contains the conductive film and a second portion extending for the remainder of the predetermined length. As noted above, instead CARLOW teaches several second portions for the purpose of generating a surface discharge on the surface of dielectric layer 53 which is directly exposed to the treatment gas (see figure 3). Moreover, it would not have been obvious to one of ordinary skill to alter CARLOW in order to only have a single second portion extending the remainder of the predetermined length because doing so would have limited the area of dielectric 53 capable of inducing a surface discharge.

HEMINGWAY also teaches a parallel plate-type plasma reactor comprising multiple dielectric plates with alternating layers having a solid conductor and the other alternating layers having a series of electrode areas which are capable of being selectively turned on or off depending on the discharge volume needed to effectively treat the volume of gas passing through the plasma reactor (see figure 3 and ¶21). However, HEMINGWAY does not teach the application of different intensity plasmas as the result of varying the distance between consecutive electrodes as claimed.

Finally, MIYAO teaches a parallel plate-type plasma reactor also comprising multiple dielectric plates with conductors inside where the pattern of the conducting elements is arranged so as to provide the largest discharge areas in the center of the plasma reactor where the flow rate of the gas to be treated is greatest (see figures 1-3 and ¶13). Additionally, MIYAO teaches the adjustment of the flow gap or interval between consecutive plates so as to adjust the strength of the generated discharge (see

¶7 and ¶8); however, MIYAO does not teach the adjustment of the discharge intensity by altering the distance between discharge plates through having a series of alternating deficient electrodes with a second portion not containing any conductive film. Consequently, MIYAO also fails to teach the plasma generating electrode as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN D. RIPA whose telephone number is 571-270-7875. The examiner can normally be reached on Monday to Friday, 9:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry D Wilkins, III/
Primary Examiner, Art Unit 1795

/B. D. R./
Examiner, Art Unit 1795